

Appl. No. 10/814,255
Amdt. dated December 6, 2005
Reply to Office action of July 6, 2005

Amendments to the Drawings:

The attached replacement sheets are formal drawings that are included to replace the informal drawings that were submitted when the application was originally filed. The Applicant submits that the formal figures address the objections raised in the Notice of Draftperson's patent drawing review. The Applicant submits that no changes have been made in the formal drawings that are not supported by the drawings as originally filed.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

This letter is responsive to the Office Action mailed on July 6, 2005. Accordingly, the Applicant includes a request for a two-month extension of time. Further, the response includes the addition of 12 new dependent claims and the cancellation of one dependent claim. Accordingly, a cheque covering the extra claim fees of \$275 US is enclosed.

Election of Claims and Summary of Telephone Interview

A telephone conversation was held with the Examiner on June 28, 2005 during which the Applicant agreed to an election of claims without traverse to prosecute the invention of Group I which includes claims 1-35 and 40-85. The Applicant hereby affirms this election of claims. The Applicant reserves the right to file a divisional application with claims directed towards the subject matter of the withdrawn claims.

Drawings

New formal drawings are included to replace the informal drawings that were submitted when the application was originally filed. The Applicant submits that the formal drawings address the objections raised in the Notice of Draftperson's patent drawing review. The Applicant submits that no changes have been made in the formal drawings that are not supported by the drawings as originally filed.

Claim Amendments

In this response, claims 1-4, 40-43, 51, 53, 62, 63, 65-67, and 69-71 have been amended. Claim 64 has been cancelled without prejudice. Claims 36-39 have been withdrawn without prejudice. New claims 86-97 have been added.

Claims 1 and 40 have been amended to recite a detection unit mounted on the power meter unit for monitoring the power consumption, and comprising: a sensor unit disposed adjacent to the power meter for monitoring the cyclical property of the indication and generating a consumption detection signal; and a processing unit connected to the sensor unit for receiving the consumption detection signal and generating an information signal. Claims 1 and 40 further recite that the processing unit includes a tracking unit for tracking the cyclical property of the indication and for generating a sleep period, and that the processing unit generates a sensor enable signal to enable the sensor unit for only a portion of the cyclical property of the indication, the portion coinciding with a time interval indicating the completion of one period of the cyclical property, the time interval being shorter than the period of the cyclical property, otherwise the sensor unit being disabled during the sleep period. Support for these claim amendments is claims 2 and 41 and paragraphs 26 and 28 of the application as originally filed. Claim 62 is the corresponding method claim which has been amended accordingly.

Claims 2 and 41 have been amended since the feature of the tracking unit has been incorporated into claims 1 and 40 respectively. Claims 3-4 and 42-43 have had their claim dependencies amended due to the claim amendments made to claims 1-2 and 40-41 respectively. Claim 64 has been cancelled, and claims 65-66 have had their claim dependencies amended due to the claim amendment of claim 62. Further, claims 63, 67 and 69-71 have had steps renumbered due to the claim amendment made to claim 62.

Claims 40 and 51 have been amended to correct a typographical error. In particular, the text "a indication" on the second line of claims 40 and 51 has been replaced with the text "an indication".

Claim 53 has also been amended to correct a typographical error. In particular, the period on the last line of element (d) in claim 52 has been deleted.

New claims 86, 90 and 94 recite the feature that the sleep period is increased for shorter periods of the cyclical property of the indication and the sleep period is decreased for longer periods of the cyclical property of the indication. Support for these claims is in paragraph 29 on page 13 of the application as filed.

New claims 87, 91 and 95 recite the feature that the sleep period is adjusted based on the time of day. Support for these claims is in paragraph 33 on page 15 of the application as filed.

New claims 88, 92 and 96 recite the feature that the sleep period is adjusted between a lower limit and a higher limit. Support for these claims is in paragraph 35 on page 16 of the application as filed.

New claims 89, 93 and 97 recite the feature that the prediction error value is chosen in accordance with a minimum and maximum time period for transmitting the transmission signal. Support for these claims is in paragraph 37 on pages 17 and 18 of the application as filed.

Claim Rejections – 35 USC § 102

In paragraph 2 of the Office Action, the Examiner rejected claims 1, 10, 12, 14, 15, 18, 40, 48, 62, 63 and 72 under 35 U.S.C. 102(e) as being anticipated by Hunt et al. (US 2003/0193405 A1) hereafter referred to as Hunt. The Examiner argued that Hunt teaches a detection unit mounted on the power meter unit (power meter 112) for monitoring the power consumption that includes a sensor unit (optical sensor 115) disposed adjacent to the power meter (attached to the outside of the meter) for monitoring the cyclical property of the indication (collects data regarding the power usage of the consumer by sensing motion of a rotating disk; see ¶ 0031) and generating a consumption detection signal (signals 126). The Examiner also argued that Hunt teaches a processing unit (sensor terminal 120) connected to the sensor unit for receiving the consumption detection signal and generating an information signal

(signals 126), the processing unit further generating a sensor enable signal to enable the sensor unit for only a portion of the cyclical property of the indication, the portion coinciding with a time interval indicating the completion of one period of the cyclical property, the time interval being shorter than the period of the cyclical property. The Examiner also argued that the sensor terminal 120 processes the data signals 330 to generate power usage signals 340 indicative of the power usage data described above and transmit the power usage signals 340 via the radio signals 126 to the display/data collector unit 125 periodically, aperiodically, or upon a polling signal being received by the sensor terminal 120 from the data center 195 (see ¶ 0039). The Examiner also argued that Hunt teaches a transmitter (sensor Terminal 120) connected to the processing unit for receiving the information signal transmitting a transmission signal; and a display unit (display/data collector unit 125) located remotely with respect to the detection unit (see figure 1), the display unit receiving the transmission signal and display the power consumption.

In response, the Applicant submits that claims 1, and 40 now recite a detection unit mounted on the power meter unit for monitoring the power consumption, and comprising: a sensor unit disposed adjacent to the power meter for monitoring the cyclical property of the indication and generating a consumption detection signal; and a processing unit connected to the sensor unit for receiving the consumption detection signal and generating an information signal. Claims 1 and 40 further recite that the processing unit includes a tracking unit for tracking the cyclical property of the indication and for generating a sleep period, and that the processing unit generates a sensor enable signal to enable the sensor unit for only a portion of the cyclical property of the indication, the portion coinciding with a time interval indicating the completion of one period of the cyclical property, the time interval being shorter than the period of the cyclical property, otherwise the sensor unit being disabled during the sleep period. Claim 62 is the corresponding method claim.

The Applicant submits that the feature of a tracking unit and the feature of enabling the sensor unit for only a portion of the cyclical property of the indication is not taught by the

Hunt reference. Rather, the Hunt reference teaches the continuous operation of the sensor unit and the sampling of data throughout the cyclical property of the indication, which in Hunt's embodiment is throughout the entire rotation of the power meter disk. Further, Hunt does not teach tracking the power meter disk rotation.

Paragraphs 34 to 48 of the Hunt reference detail the operation of Hunt's detection unit. Specifically paragraphs 41-43 teach the use of a timer 410 and that the power usage can be minimized by flashing the LED 420 with a frequency of 120 Hz and a duty cycle of 1%. However, for this embodiment taught by Hunt, this is not the same as keeping the sensor unit operational for only a portion of the rotation of the power meter disk which coincides with the passage of the black mark by the sensor unit. Rather, Hunt teaches continuously pulsing the LED and sampling the data during the entire rotation of the power meter disk.

Further, Hunt only teaches periodic sampling of the IR sensor where the period is determined by the maximum possible speed of rotation of the cylindrical property. Thus, Hunt teaches sampling at a constant rate and does not teach altering the sampling period based on the actual speed of the rotation of the power meter disk. Further, this is not possible with Hunt's device since Hunt does not teach tracking the rotation of the power meter disk.

In contrast, claims 1, 40, and 62 of the present application each recite the feature of tracking the cyclical property of the indication to enable the sensor unit for only a portion of the cyclical property of the indication. The Applicant also submits that tracking the cyclical property of the indication allows the sensor unit to adapt to variations in the speed of the cylindrical property of the indication and to accordingly vary the duration of time for which the sensor unit is enabled.

Further, the Applicant respectfully submits that the feature highlighted by the Examiner in Hunt of transmitting power usage signals to a display unit periodically, aperiodically or

upon a polling signal, is not the same feature as enabling the sensor unit for only a portion of the cyclical property of the indication as taught and claimed by the Applicant.

In addition, the Applicant notes that in the Office Action, the Examiner had indicated that the feature of "generating a sleep period during which the sensor enable signal disables the sensor unit" recited in claim 2 along with the subject matter of claim 1 avoids the prior art. Claim 1 has now been amended to include this feature. The Examiner made a similar statement with respect to claim 41 for this feature. Claim 40 has now been amended to include this feature. The Examiner also made a similar statement with respect to claim 64 for this feature. Claim 62 has now been amended to include this feature.

Accordingly, the Applicant respectfully submits that claims 1, 40, and 62 are novel and inventive over Hunt and should be allowed. Further, since claims 10, 12, 14, 15, 18 and 86-89 are dependent either directly or indirectly on claim 1 and introduce other patentable features, and since claims 48, and 90-93 are dependent either directly or indirectly on claim 40 and introduce other patentable features, and since claims 63, 72 and 94-97 are dependent either directly or indirectly on claim 62 and introduce other patentable features, the Applicant respectfully submits that claims 10, 12, 14, 15, 18, 48, 63, 72 and 86-97 should also be allowable.


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Conclusion

In view of the foregoing, the Applicant respectfully submits that the application is now in condition for allowance and requests that a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone discussion would be helpful to resolve any issues, he is respectfully requested to contact the undersigned.

Respectfully submitted,

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Attachments

Appl. No. 10/814,255
Amdt. dated November 1, 2005
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Replacement Sheets